List of the Claims

1. (Cancelled) A genetically altered chondrocyte used for expressing a therapeutic agent, wherein the genetically altered chondrocyte, when delivered to a target region having one or more cells associated with a disorder, expresses the therapeutic agent in such a way as to modify an environment surrounding the one or more cells, wherein

(a) said environment is an atypical chondrocyte environment; and

(b) wherein the genetically altered chondrocyte does not become a structural component of the environment.

2. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the chondrocyte produces a therapeutic agent selected from the group consisting of a protein, an antibody, a mimetibody, an antigen, a hormone, an anti-inflammatory agent, an antiviral agent, an anti-bacterial agent, a growth factor, a cytokine, an oncogene, a tumor suppressor, a transmembrane receptor, an adhesion molecule, a neurotransmitter, a morphogenetic protein, a differentiation factor, an enzyme, and an extracellular matrix protein.

3. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the therapeutic agent is an Erythropoietin protein.

4. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the therapeutic agent is an Erythropoietin mimetibody.

5. (Previously Cancelled) The genetically altered chondrocyte of claim 5, wherein the cell associated with a disorder is in an atypical chondrocyte environment.

6. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the atypical chondrocyte environment is in an organ selected from the group consisting of the brain, heart, liver, kidney, gastro-intestinal tract, spleen, smooth muscles, skeletal muscles, eye, ganglions, lungs, gonads, and pancreas.

7. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the atypical chondrocyte environment is an aqueous environment selected from the group consisting of blood and plasma.

8. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the cell associated with a disorder is in a typical chondrocyte environment.

9. (Cancelled) The genetically altered chondrocyte of claim 8, wherein the typical chondrocyte environment is selected from the group consisting of bone, tendon and cartilage.

10. (Cancelled) The genetically altered chondrocyte of claim 1, further comprising a biocompatible substrate mixed therewith.

11. (Cancelled) The genetically altered chondrocyte of claim 10, wherein the biocompatible substrate is gel matrix substrate.

12. (Cancelled) The genetically altered chondrocyte of claim 1, wherein the cell associated with a disorder is a cell selected from the group consisting of a cell associated with a blood disorder, a cell associated with a cardiovascular disorder, a cell associated with an endocrine disorder, a cell associated with an autoimmune disorder, a cell associated with a neurological disorder, a cell associated with a skin disorder, a cell associated with fertility disorder, and a cell associated with reproduction.

13. (Cancelled) A genetically altered chondrocyte used for expressing a therapeutic agent in an environment surrounding a cell associated with a disorder, wherein the genetically altered chondrocyte is effective to be delivered to the environment and expresses the therapeutic agent to modify the environment surrounding the cell, and wherein the genetically altered chondrocyte does not become a structural component of the environment.

14. (Cancelled) The genetically altered chondrocyte of claim 13, wherein the chondrocyte produces a therapeutic agent selected from the group consisting of a protein, an antibody, a mimetibody, an antigen, a hormone, an anti-inflammatory agent, an antiviral agent, an anti-bacterial agent, a growth factor, a cytokine, an oncogene, a tumor suppressor, a transmembrane receptor, an adhesion molecule, a neurotransmitter, a morphogenetic protein, a differentiation factor, an enzyme, and an extracellular matrix protein.

15. (Cancelled) The genetically altered chondrocyte of claim 13, wherein the therapeutic agent is an Erythropoietin protein.

16 (Cancelled) The genetically altered chondrocyte of claim 13, wherein the therapeutic agent is an Erythropoietin mimetibody.

17. (Cancelled) The genetically altered chondrocyte of claim 13, wherein the target region is in an atypical chondrocyte environment.

18. (Cancelled) The genetically altered chondrocyte of claim 17, wherein the atypical chondrocyte environment is in an organ selected from the group consisting of the brain, heart, liver, kidney, gastro-intestinal tract, spleen, smooth muscles, skeletal muscles, eye, ganglions, lungs, gonads, and pancreas.

19. (Cancelled) The genetically altered chondrocyte of claim 17, wherein the atypical chondrocyte environment is an aqueous environment selected from the group consisting of blood and plasma.

20. (Cancelled) The genetically altered chondrocyte of claim 13, wherein the target region is in a typical chondrocyte environment.

21. (Cancelled) The genetically altered chondrocyte of claim 20, wherein the typical chondrocyte environment is selected from the group consisting of bone, tendon, and cartilage.

22. (Cancelled) The genetically altered chondrocyte of claim 13, further comprising a biocompatible substrate mixed therewith.

23. (Cancelled) The genetically altered chondrocyte of claim 22, wherein the biocompatible substrate is gel matrix substrate.

24. (Cancelled) The genetically altered chondrocyte of claim 13, wherein the disorder is selected from the group consisting of a blood disorder; a cardiovascular disorder; an endocrine disorder; an autoimmune disorder; a neurological disorder; a skin disorder; a fertility disorder and reproduction.

25. (Withdrawn) A method for modifying an environment of a cell associated with a disorder using a genetically altered chondrocyte, comprising:

providing a genetically altered chondrocyte , wherein the genetically altered chondrocyte has been altered to express a therapeutic agent;

delivering the genetically altered chondrocyte to the environment of a cell with a disorder such that the genetically altered chondrocyte does not become structurally functional in the environment surrounding the cell; and

expressing the therapeutic agent to a level sufficient to modify the environment surrounding the cell.

26. (Withdrawn) The method of claim 25, wherein the genetically altered chondrocyte, is genetically altered to produce a therapeutic agent selected from the group consisting of a protein, an agonist or an antogonist of an antibody, an antigen, a hormone, an anti-inflammatory agent, an antiviral agent, and anti-bacterial agent, a growth factor, a cytokine, an oncogene, a tumor suppressor, a transmembrane receptor, an adhesion molecule, a neurotransmitter, a morphogenetic protein, a differentiation factor, an enzyme, and an extracellular matrix protein.

27. (Withdrawn) The method of claim 25, wherein the therapeutic agent is an Erythropoietin protein.

28. (Withdrawn) The method of claim 25, wherein the therapeutic agent is an Erythropoietin mimetibody.

29. (Withdrawn) The method of claim 25, wherein the cell associated with the disorder is in an atypical chondrocyte environment.

30. (Withdrawn) The method of claim 29, wherein the atypical chondrocyte environment is in an organ selected from the group consisting of the brain, heart, liver, kidney, gastro-intestinal tract, spleen, smooth and skeletal muscles, eye, ganglions, lungs, gonads, and pancreas.

31. (Withdrawn) The method of claim 29, wherein the atypical chondrocyte environment is an an aqueous environment selected from the group consisting of blood and plasma.

32. (Withdrawn) The method of claim 25, wherein the target region is in a typical chondrocyte environment.

33. (Withdrawn) The method of claim 32, wherein the typical chondrocyte environment is selected from the group consisting of bone, tendon, and cartilage.

34. (Withdrawn) The method of claim 25 further comprising mixing the genetically altered chondrocyte with a biocompatible substrate.

35. (Withdrawn) The method of claim 34, wherein the biocompatible substrate is a gel matrix substrate.

36. (Withdrawn) A method for ameliorating a disorder or injury in a subject using a genetically altered chondrocyte, comprising:

providing a genetically altered chondrocyte, wherein the genetically altered chondrocyte has been altered to express a therapeutic agent;

implanting a biocompatible substrate comprising a genetically altered chondrocyte into a target region of the subject, wherein the genetically altered chondrocyte is not structurally functional in the target region or an environment surrounding the target region; and

expressing the therapeutic agent in the target region at a level sufficient to ameliorate the disorder.

37. (Withdrawn) The method of claim 36, wherein the target region is in an atypical chondrocyte environment.

38. (Withdrawn) The methods of claim 37, wherein the atypical chondrocyte environment is in an organ selected from the group consisting of the brain, heart, liver, kidney, gastro-intestinal tract, spleen, smooth and skeletal muscles, eye, ganglions, lungs, gonads, and pancreas.

39. (Withdrawn) The methods of claim 37, wherein the atypical chondrocyte environment is an an aqueous environment selected from the group consisting of blood and plasma.

40. (Withdrawn) The method of claim 36, wherein the target region is in a typical chondrocyte environment.

41. (Withdrawn) The method of claim 40, wherein the typical chondrocyte environment is selected from the group consisting of bone, tendon, and cartilage.

42. (Withdrawn) The method of claim 36, wherein the step of implanting the biocompatible substrate comprises implanting a gel matrix substrate.

43. (Withdrawn) The method of claim 42, wherein the gel matrix substrate is selected from the group consisting of alginate, polysaccharide, and agarose.

44. (Withdrawn) The method of claim 42, wherein the dimensions of the implanted gel matrix substrate determines the concentration of chondrocytes within the gel matrix substrate that are available to express the therapeutic agent.

45. (Withdrawn) The method of claim 44, wherein the concentration of chondrocytes in the gel matrix substrate is about 100,00 to 10 millions cells per ml in a gel matrix volume of 0.05ml to 10 ml.

46. (Withdrawn) The method of claim 36, wherein the disorder is selected from the group consisting of a blood disorder, an autoimmune disorder, a hormonal disorder, an anti-inflammatory disorder, a fertility disorder, and an neurodegenerative disorder.

47. (Withdrawn) The method of claim 36, wherein the injury is selected from the group consisting of a wound, a bone defect, a cartilage defect, a skin wound, and a torn ligament.

48. (New) A composition comprising:

(a) a biocompatible substrate; and

(b) a genetically altered chondrocyte modified to express a therapeutic agent in a target region associated with a disorder;

wherein the target region is an ectopic site and wherein the composition is capable of delivering the therapeutic agent at a level sufficient to ameliorate the disorder.

49. (New) The composition of claim 48, wherein the composition does not become part of the ectopic target region.

50. (New) The composition of claim 48, further being adapted to deliver the therapeutic agent to an environment surrounding a cell associated with a disorder, and being capable of modifying the environment surrounding the cell.

51. (New) The composition of claim 48, wherein the chondrocyte produces a therapeutic agent selected from the group consisting of a protein, an antibody, a mimetibody, an antigen, a hormone, an anti-inflammatory agent, an antiviral agent, an anti-bacterial agent, a growth factor, a cytokine, an oncogene, a tumor suppressor, a transmembrane receptor, an adhesion molecule, a neurotransmitter, a morphogenetic protein, a differentiation factor, an enzyme, and an extracellular matrix protein.

52. (New) The composition of claim 48, wherein the therapeutic agent is an Erythropoietin protein.

53. (New) The composition of claim 48, wherein the therapeutic agent is an Erythropoietin mimetibody.

54. (New) The composition of claim 48, wherein the ectopic site is in a site in an organ selected from the group consisting of the brain, heart, liver, kidney, gastro-intestinal tract, spleen, smooth muscles, skeletal muscles, eye, ganglions, lungs, gonads, and pancreas.

55. (New) The composition of claim 48, wherein the ectopic site is an aqueous environment selected from the group consisting of blood and plasma.

56. (New) The composition of claim 48, wherein the biocompatible substrate is gel matrix substrate.

57. (New) The composition of claim 56, wherein the gel matrix substrate is selected from the group consisting of alginate, polysaccharide, and agarose.

58. (New) The composition of claim 56, wherein the dimensions of the implanted gel matrix substrate determines the concentration of chondrocytes within the gel matrix substrate that are available to express the therapeutic agent.

59. (New) The composition of claim 56, wherein the concentration of chondrocytes in the gel matrix substrate is about 100,00 to 10 million cells per ml in a gel matrix volume of 0.05 ml to 10 ml.